



**Public Service  
of New Hampshire**

D27985

May 15, 2009

Mr. Michele R. Andy, Administrator  
Permitting & Environmental Health Bureau  
Air Resources Division  
NH Dept. of Environmental Services  
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The Northeast Utilities System

John M. MacDonald  
Vice President - Generation

AIR RESOURCES DIVISION

MAY 15 2009

Public Service Company of New Hampshire  
Merrimack Station  
Additional Information; Application #FY96-TV048

Dear Ms. Andy:

Public Service Company of New Hampshire's (PSNH) is providing the following information in response to your April 13, 2009 letter, received on April 15, 2009, requesting additional information specific to Merrimack Station.

With regard to the request for a revised air toxics compliance demonstration for coal dust pursuant to Env-A 1405, PSNH no longer has the in-house capability to complete the requested dispersion modeling impact analysis. In order to secure the necessary resources, PSNH requests an additional 45 days to update the previously submitted air toxics compliance demonstration.

Specific to the request for an updated list of alternate operating scenarios, PSNH has identified the following scenarios for incorporation into Merrimack Station's Title V Operating Permit: (1) Trial Test Burns with Other Fuels, (2) Fly Ash Reinjection, (3) NOx RACT Emission Reduction Management Practices, (4) Mercury Emission Reduction Management Practices, and (5) Unit #1 Bypass Stack Configuration. This updated list replaces in its entirety the list of alternate operating scenarios previously submitted as part of PSNH's Title V Operating Permit Application for Merrimack Station, dated June 28, 1996. For that initial submittal, PSNH's prior approach to identifying alternate operating scenarios was excessively expansive in an attempt not to erroneously prohibit any scenario, regardless of its likelihood. Given the practical implementation of the 40 CFR 70.6 (a)(9) by the New Hampshire Department of Environmental Services, Air Resources Division, that approach and the previously submitted list of alternate operating scenarios are no longer appropriate.

The requirements for trial test burns with other fuels are contained in the current permits for Merrimack Station, as well as the Title V Operating Permits issued to PSNH's Newington and Schiller Stations. The retention of these provisions in Merrimack Station's Title V Operating Permit will allow PSNH to pursue short-term trials of alternative fuels, as has been done in the past at both Merrimack and Schiller Stations.

Ms. Michele R. Andy, Administrator  
May 15, 2009  
Page 2 of 2

Fly ash has historically been, and is currently, reinjected at Merrimack Station, as necessary, based on operational and/or technical drivers, including available options for storage and beneficial reuse. It is important that PSNH retain this operational flexibility under the Title V Operating Permit. Although PSNH considers fly ash reinjection normal operations at Merrimack Station, if listing this activity as an alternate operating scenario is necessary, PSNH is willing to do so.

The NOx emission reduction management practices currently employed at Merrimack Station, and allowed under current permits, include the Selective Catalytic Reduction systems on Units #1 and #2 and the use of Discrete Emissions Reductions in accordance with NOx RACT Order ARD-98-001 and Env-A 3100. It is critical that PSNH continue this approach to NOx emissions reduction management under the Title V Operating Permit issued to Merrimack Station.

As you know, PSNH has been conducting mercury emission reduction trials since 2005. An alternate operating scenario relative to mercury emission reduction management practices is necessary to allow PSNH to test and implement mercury reduction control technologies or methods, including sorbent injection, to achieve reductions in mercury emissions as required by RSA 125-O:13.

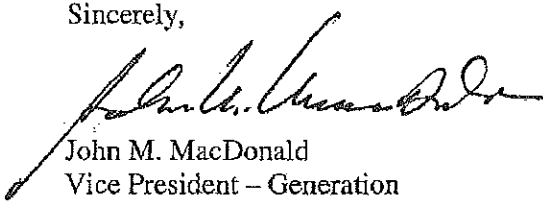
Detailed information pertaining to the Unit #1 bypass stack configuration was provided in PSNH's application for a temporary permit for the installation of the FGD system at Merrimack Station. As explained in the application, in order to allow for the continued operation of Unit #1 when the FGD is off-line for maintenance, it will be necessary for Unit #1 to bypass the new stack and temporarily vent through the existing Unit #2 stack.

In response to the request that PSNH update its Title V Operating Permit application with an application to renew the facility's Acid Rain Permit, PSNH has enclosed the an Acid Rain Permit Application.

Relative to the request for supplemental information as necessary to update the Title V Operating Permit application, in accordance with Env-A 609.12, all information contained in permit applications filed by PSNH since July 1, 1996 should be considered as updates to PSNH's Title V Operating Permit application for Merrimack Station. Permit applications previously submitted include the applications for the installation of the Unit #2 supplemental Electrostatic Precipitator (ESP), the Unit #1 Selective Catalytic Reduction (SCR) system, the Flue Gas Desulfurization (FGD) system, and the emergency boiler.

Should you have any questions or require additional information, please contact Laurel L. Brown, Senior Environmental Analyst - Generation at 634-2331 or brownll@nu.com.

Sincerely,



John M. MacDonald  
Vice President - Generation

Enclosure



**PSNH MERRIMACK STATION**

Acid Rain - Page 2

Facility (Source) Name (from STEP 1)

**STEP 3****Permit Requirements**

Read the standard requirements.

- (1) The designated representative of each affected source and each affected unit at the source shall:
  - (i) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR part 72 in accordance with the deadlines specified in 40 CFR 72.30; and
  - (ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit;
- (2) The owners and operators of each affected source and each affected unit at the source shall:
  - (i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and
  - (ii) Have an Acid Rain Permit.

**Monitoring Requirements**

- (1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75.
- (2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the source or unit, as appropriate, with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
- (3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

**Sulfur Dioxide Requirements**

- (1) The owners and operators of each source and each affected unit at the source shall:
  - (i) Hold allowances, as of the allowance transfer deadline, in the source's compliance account (after deductions under 40 CFR 73.34(c)), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the affected units at the source; and
  - (ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
- (2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
- (3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
  - (i) Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or
  - (ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under 40 CFR 72.6(a)(3).
- (4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
- (5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
- (6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
- (7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

**STEP 3, Cont'd.**

**PSNH MERRIMACK STATION**

Acid Rain - Page 3

Facility (Source) Name (from STEP 1)

**Nitrogen Oxides Requirements**

The owners and operators of the source and each affected unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

**Excess Emissions Requirements**

- (1) The designated representative of an affected source that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
- (2) The owners and operators of an affected source that has excess emissions in any calendar year shall:
  - (i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
  - (ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

**Recordkeeping and Reporting Requirements**

- (1) Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:
  - (i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
  - (ii) All emissions monitoring information, in accordance with 40 CFR part 75, provided that to the extent that 40 CFR part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply.
  - (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,
  - (iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.
- (2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

**Liability**

- (1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
- (2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
- (3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
- (4) Each affected source and each affected unit shall meet the requirements of the Acid Rain Program.

STEP 3, Cont'd.

**PSNH MERRIMACK STATION**

Acid Rain - Page 4

Facility (Source) Name (from STEP 1)

**Liability, Cont'd.**

(5) Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source.

(6) Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit.

(7) Each violation of a provision of 40 CFR parts 72, 73, 74, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

**Effect on Other Authorities**

No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 shall be construed as:

(1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating

to applicable National Ambient Air Quality Standards or State Implementation Plans;

(2) Limiting the number of allowances a source can hold; *provided*, that the number of allowances held by the source shall not affect the source's obligation to comply with any other provisions of the Act;

(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;

(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,

(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

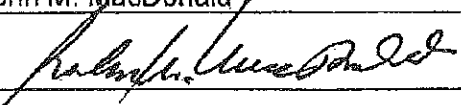
**STEP 4**  
Read the  
certification  
statement,  
sign, and date.

**Certification**

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name: John M. MacDonald

Signature



Date: May 15, 2009



United States  
Environmental Protection Agency  
Acid Rain Program

OMB No. 2060-0258

## Phase II NO<sub>x</sub> Compliance Plan

Page 1 of 2

For more information, see instructions and refer to 40 CFR 76.9

This submission is: ☐ New ☐ Revised ☒ Renewal

STEP 1 Indicate plant name,  
State, and ORIS code from  
NADB, if applicable

PSNH MERRIMACK STATION Plant Name	NH State	2364 ORIS Code
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STEP 2

Identify each affected Group 1 and Group 2 boiler using the boiler ID# from NADB, if applicable. Indicate boiler type: "CB" for cell burner, "CY" for cyclone, "DBW" for dry bottom wall-fired, "TN" for tangentially fired, "VF" for vertically fired, and "WB" for wet bottom. Indicate the compliance option selected for each unit.

ID# 1	ID# 2	D#	D#	D#	D#
Type Cyclone	Type Cyclone	Type	Type	Type	Type

(a) Standard annual average emission limitation of 0.50 lb/mmBtu (for Phase I dry bottom wall-fired boilers)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Standard annual average emission limitation of 0.45 lb/mmBtu (for Phase I tangentially fired boilers)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) EPA-approved early election plan under 40 CFR 76.8 through 12/31/07 (also indicate above emission limit specified in plan)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d) Standard annual average emission limitation of 0.46 lb/mmBtu (for Phase II dry bottom wall-fired boilers)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(e) Standard annual average emission limitation of 0.40 lb/mmBtu (for Phase II tangentially fired boilers)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(f) Standard annual average emission limitation of 0.68 lb/mmBtu (for cell burner boilers)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(g) Standard annual average emission limitation of 0.86 lb/mmBtu (for cyclone boilers)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(h) Standard annual average emission limitation of 0.80 lb/mmBtu (for vertically fired boilers)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(i) Standard annual average emission limitation of 0.84 lb/mmBtu (for wet bottom boilers)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(j) NO <sub>x</sub> Averaging Plan (include NO <sub>x</sub> Averaging form)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(k) Common stack pursuant to 40 CFR 75.17(a)(2)(i)(A) (check the standard emission limitation box above for most stringent limitation applicable to any unit utilizing stack)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(l) Common stack pursuant to 40 CFR 75.17(a)(2)(i)(B) with NO <sub>x</sub> Averaging (check the NO <sub>x</sub> Averaging Plan box and include NO <sub>x</sub> Averaging form)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**PSNH MERRIMACK STATION**  
 Plant Name (from Step 1)
NO<sub>x</sub> Compliance - Page 2

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## STEP 2, cont'd.

ID# 1	ID# 2	D#	D#	D#	D#
Type	Type	Type	Type	Type	Type
Cyclone	Cyclone				
(m) EPA-approved common stack apportionment method pursuant to 40 CFR 75.17 (a)(2)(i)(C), (a)(2)(iii)(B), or (b)(2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(n) AEL (include Phase II AEL Demonstration Period, Final AEL Petition, or AEL Renewal form as appropriate)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(p) Petition for AEL demonstration period or final AEL under review by U.S. EPA or demonstration period ongoing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(p) Repowering extension plan approved or under review	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**STEP 3**  
 Read the standard requirements and certification, enter the name of the designated representative, sign & date.
**Standard Requirements**

General. This source is subject to the standard requirements in 40 CFR 72.9 (consistent with 40 CFR 76.8(e)(1)(i)). These requirements are listed in this source's Acid Rain Permit.

**Special Provisions for Early Election Units**

Nitrogen Oxides. A unit that is governed by an approved early election plan shall be subject to an emissions limitation for NO<sub>x</sub> as provided under 40 CFR 76.8(a)(2) except as provided under 40 CFR 76.8(e)(3)(iii).

Liability. The owners and operators of a unit governed by an approved early election plan shall be liable for any violation of the plan or 40 CFR 76.8 at that unit. The owners and operators shall be liable, beginning January 1, 2000, for fulfilling the obligations specified in 40 CFR Part 77.

Termination. An approved early election plan shall be in effect only until the earlier of January 1, 2008 or January 1 of the calendar year for which a termination of the plan takes effect. If the designated representative of the unit under an approved early election plan fails to demonstrate compliance with the applicable emissions limitation under 40 CFR 76.5 for any year during the period beginning January 1 of the first year the early election takes effect and ending December 31, 2007, the permitting authority will terminate the plan. The termination will take effect beginning January 1 of the year after the year for which there is a failure to demonstrate compliance, and the designated representative may not submit a new early election plan. The designated representative of the unit under an approved early election plan may terminate the plan any year prior to 2008 but may not submit a new early election plan. In order to terminate the plan, the designated representative must submit a notice under 40 CFR 72.40(d) by January 1 of the year for which the termination is to take effect. If an early election plan is terminated any year prior to 2000, the unit shall meet, beginning January 1, 2000, the applicable emissions limitation for NO<sub>x</sub> for Phase II units with Group 1 boilers under 40 CFR 76.7. If an early election plan is terminated on or after 2000, the unit shall meet, beginning on the effective date of the termination, the applicable emissions limitation for NO<sub>x</sub> for Phase II units with Group 1 boilers under 40 CFR 76.7.

**Certification** I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

John M. MacDonald

Name

Signature

May 15, 2009

Date